United States Department of Agriculture | Natural Resources Conservation Service | December 2004

2004 Soil Survey Program

Rhode Island Summary

Overview

The National Cooperative Soil Survey Program (NCSS) is a partnership led by NRCS of Federal land management agencies, state agricultural experiment stations and state and local units of government that provide soil survey information necessary for understanding, managing, conserving and sustaining the nation's limited and extremely important soil resources.

Soil surveys provide an orderly, on-the-ground, scientific inventory of soil resources that included maps showing the locations and extent of soils, data about the physical and chemical properties of those soils, and information derived from that data about potentialities and problems of use on each kind of soil in sufficient detail to meet all reasonable needs for farmers, agricultural technicians, community planners, engineers, and scientists in planning and transferring the findings of research and experience to specific land areas.

Accomplishments

Aside from our subaqueous soil priority, a lot of work was also conducted on our terrestrial soil survey during the fiscal year. The following is a list of soil survey activities and brief explanations of the purpose of the activity made during FY 2004:

- Ground penetrating radar assistance from the NSSC – a week of GPR work was conducted to provide soil transects data on soils used for turf farming. The GPR was used to map the thickness of loess. A fresh-water subaqueous soil area was also profiled to get some baseline data on the pond.
- Digital soil additions – digital soil data is one of the most requested resource inventory data for geographic information systems (GIS). This data is available from two sources; the RIGIS data base and from the USDA Soil Data Mart. Additional soil attribute data was added to the RI soil website including the special features (ad-hoc spot symbols), an attribute join table, and a database file.
- A soil temperature study was initiated to collect data on growing season for hydric soil purposes – four temperature data loggers were installed throughout the state. The loggers will be retrieved this fall and the data will be provided on the web.
- Pedon descriptions – all soil pedons described as part of the subaqueous soil mapping have been entered into the pedon description program by a summer internship. The program will allow for easier tracking and help with the establishment of soil series. All pedons were also uploaded to the web which allows users to link the description locations with the data.

Outlook

The Rhode Island soil survey is 23 years old, a work plan for the survey to enter into an official maintenance mode will be produced in FY05. Once in a maintenance mode, the survey will be modernized, the mapping updated, data collected, and the survey will be re-digitized.

State Contact

Jim Turenne, Assistant State Soil Scientist, 60 Quaker Lane, Suite 46, Warwick RI 02886, 401-822-8830 for more information call or visit: http://www.ri.nrcs.usda.gov/technical/soils.html

Subaqueous Soil Survey of Ninigret Pond

Ninigret Pond in Charlestown is a 1,711 acre salt pond (coastal lagoon), the largest salt pond in Rhode Island. The pond is one of the most important and productive ecosystems in the State. During the summer of 2004 the subaqueous soils (soil underwater) of the pond were mapped and data about the soil and sediment was collected.

The mapping was conducted through a contribution agreement with the Department of Natural Resources at URI. A team of soil scientists collected over 120 soil cores which were described and selected cores were sampled for chemical and physical properties. Additional data was collected from the Mapping Partnership for Coastal Soils and Sediment (MapCoast) including detailed bathymetry, side-scan sonar (remote sensing), sediment profile imaging, and video of the pond bottom. A great deal of valuable soil information has been collected as a result of this mapping endeavor; we plan to use the mapping as a demonstration project to highlight the need for subaqueous soils information in the Ocean State.